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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,707	11/25/2003	Jeffrey G. Thompson	7784-000676	6306
27572	7590	02/14/2006		
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER GABOR, OTILIA	
			ART UNIT 2884	PAPER NUMBER

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,707

Applicant(s)

THOMPSON, JEFFREY G. 

Examiner

Otilia Gabor

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003 and 21 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-28 is/are allowed.
- 6) ☒ Claim(s) 1, 6-16, 20-24, 29-31 and 33-35 is/are rejected.
- 7) ☒ Claim(s) 2-5, 17-19 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment filed 12/21/2005 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 6, 7, 12-15, 29-31, 33-35 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rothenfusser (DE 10147102 A1).

Rothenfusser discloses an apparatus and method for detecting defects in a specimen (B) by: applying a liquid detection medium (A) to the test specimen (B); exciting the test specimen (B) to cause the liquid detection medium (A) to produce a defect signature (SW, AB) for a defect in the test specimen; monitoring the liquid detection medium (A) for defect signatures (SW, AB) produced by the liquid detection medium (A) (the wave amplitudes of the object and the liquid detection medium allow the identification of a certain structure or signature, and the standing wave indicates a portion with structural defects) (see figures and corresponding description). The monitoring is done with a camera (K), which detects different heat emission intensities.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-11, 16, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothenfusser.

Rothenfusser fails to disclose that the test specimen is excited so that the liquid in the liquid couplant is ejected from the surface of the specimen, however it would have been obvious to one of ordinary skill in the art that both systems are capable of such an ejection since it is well known that with a sufficient excitation power, the standing wave generated creates a large amplitude signature so that at least some of the liquid is ejected (i.e., liquid ejection occurs at sufficient excitation).

Allowable Subject Matter

6. Claims 25-28 allowed.

7. Claims 2-5, 17-19, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: There is no evidence in the prior art searched of a method for detecting defects in a test specimen where the defect signature comprises a cold signature, which cold

signature is the signature that is generated when upon excitation of the specimen the couplant is ejected from the specimen and is cooled by evaporation.

Response to Arguments

9. Applicant's arguments, filed 12/21/2005, with respect to Novotny have been fully considered and are persuasive. The rejection of claims based on the Novotny reference have been withdrawn.

10. Applicant's arguments filed 12/21/2005 with regards to reference Rothenfusser have been fully considered but they are not persuasive. The argument that Rothenfusser does not disclose that the monitoring includes monitoring the liquid detection medium to detect a temperature differential indicative of a defect in the test specimen is not persuasive because as clearly disclosed by Rothenfusser in the figures, as well as the admittance by the Applicant in the response, the camera K in Rothenfusser is present to detect the radiant heating or rise in temperature emanated from the liquid coupling. Rothenfusser also shows in the figures that the rise in the amplitude of the standing wave corresponds to a rise in the temperature of the coupling liquid, and this rise corresponds to the position where there is a defect in the specimen. In order to know that there is a rise in the temperature one inherently must compare the temperature to a previous temperature, and therefore, it inherently follows that when the whole specimen is monitored, the temperature differential of the whole coupling is monitored to detect the defects in the entire specimen. Thus, as long as there is a temperature or heat detection, there is a temperature differential detection. The

argument that the newly introduced limitation that the defect detection method is done without having to rely on heating the test specimen differentiates the present method from that disclosed in Rothenfusser is not persuasive because Rothenfusser does not rely on heating the test specimen, for there is no external heating of the specimen. The temperature rise in the couplant is the result of the standing waves created in the couplant where there are defects in the specimen. The argument that Rothenfusser does not disclose monitoring a cold signature is not persuasive because the independent claims do not contain this limitation and thus the Applicant argues for a limitation that is not present in the claims. The argument that Rothenfusser does not disclose visual monitoring of the waves in the couplant is not persuasive because as clearly disclosed and admitted by the Applicant (see response, page 15) Rothenfusser discloses using a camera to monitor the standing waves in the couplant. Because the position of the highest amplitude wave is indicative of a defect it is obvious that the camera displays/monitors the position of these waves in order to determine where exactly the defect in the specimen is. If there is no visual monitoring of these waves there could be no identification of the actual physical position as to where the defect is in the specimen. As such, the claims still stand rejected as shown in detail above.

Conclusion

11. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

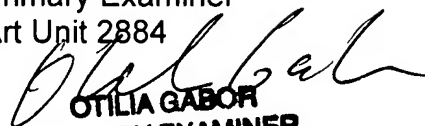
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 571-272-2435. The examiner can normally be reached on Monday-Friday between 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2884

Otilia Gabor
Primary Examiner
Art Unit 2884



OTILIA GABOR
PRIMARY EXAMINER